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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,488	07/29/2003	Hee Bok Kang	40296-0035	5032
26633	7590	09/08/2004	EXAMINER	
HELLER EHRMAN WHITE & MCAULIFFE LLP			TRAN, MICHAEL THANH	
1666 K STREET,NW			ART UNIT	
SUITE 300			PAPER NUMBER	
WASHINGTON, DC 20006			2818	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,488

Applicant(s)

KANG, HEE BOK

Examiner

Michael t Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-17 is/are allowed.
- 6) ☒ Claim(s) 1 and 18 is/are rejected.
- 7) ☒ Claim(s) 2-10 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

1. In response to the Communications dated July 29, 2003, claims 1-19 are active in this application.

### ***Foreign Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a) (d), which papers have been placed of record in the file.

### ***Claim Objections***

3. Claims 2-10 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It appears that the word –and—should be added after the last semicolon in claim 1.

It appears that the word “fo” [second to the last line of claim 1] should be changed to –to--.

### ***Claim Rejections – 35 U.S.C. § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claim 1 is rejected under 35 U.S.C 102(e) as being anticipated by Kang [U.S. Patent #6,215,692].

With respect to claim 1, Kang discloses a ferroelectric memory device including an extended memory unit, comprising: a cell array block [61 of figure 6] including a main bitline [BLG of figure 25] and a plurality of sub bitlines [BLL1\_ns of figure 25], the main bitline connected between a main bitline pull-up controller and a column selection controller [81a of figure 16b and COSEL of figure 18], and each of sub bitline connected to the main bitline and a unit cell; a data bus unit [data bar bus of figure 18] connected to the column selection controller; an input/output circuit unit [103, sn3, and sn4 of figure 18] including a sense amplifier array connected to the data bus unit; an extended memory unit [any one of the plurality of element 61] sharing the main bitline included in the cell array block and including a plurality of cell blocks [all of the plurality of element 61 are interpreted as having a plurality of sub-arrays]; and an extended memory controller for controlling the extended memory unit in response to an external control signal [Kang is silent about a controller for the memories; however, one

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of ordinary skill in the art would find it reasonable to assume that there are such an element within the memory, since it is not possible for the memory to function without certain input [instructions]].

6. Claim 18 is rejected under 35 U.S.C 102(e) as being anticipated by Kim [U.S. Patent #6,157,585].

With respect to claim 18, Kim discloses, in figure 1, a ferroelectric memory device including an extended memory unit, comprising: an ecc controller [500] for outputting an extended memory control signal in response to a repair request signal activated when a fail cell is accessed, and for inactivating the fail cell [the controller re-rout the access to a redundant cell; an extended memory unit [300] including a redundancy cell for replacing the fail cell; and an extended memory controller [900] for controlling the extended memory unit in response to the extended memory control signal.

### ***Allowable Subject Matter***

7. Claims 11-17 are allowable over the prior art of record.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter: the prior art of records does not show (in addition to the other elements in the claim) the following:

- ❖ Wherein the main bitline pull-up controller is a PMOS transistor having a gate to receive a control signal, a source connected to a positive power and a drain connected to the main bitline.

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- ❖ Wherein the column selection controller is a switch having a gate to receive a control signal, a terminal connected to a main bitline and the other terminal connected to a data bus line.
- ❖ Wherein the cell array block includes a plurality of sub cell blocks corresponding to the plurality of sub bitlines respectively, each sub cell block comprising: a fifth NMOS transistor having a gate connected to a seventh control signal, a drain connected to the main bitline and a source connected to the second terminal to the sub bitline.
- ❖ A ferroelectric memory device including an extended memory unit, comprising: a controller for storing a predetermined key value in response to an external command signal, for outputting an extended memory control signal corresponding to the external control signal when the external control signal satisfies a predetermined condition of the key value, and for maintaining the stored key value when power is off; and an extended memory unit including a plurality of cells for storing predetermined data in response to the extended memory control signal, the plurality of cells sharing existing bitlines.
- ❖ Wherein the extended memory unit comprises: a first extended memory unit for storing an address of the fail cell and an address of the redundancy cell corresponding to the fail cell; and a second extended memory unit including the redundancy cell, wherein the extended memory controller controls the redundancy cell using the address of the redundancy cell obtained from the first extended memory unit.

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***Conclusion***

9. When responding to the Office action, Applicants are advised to provide the Examiner with line and page numbers of the application and/or references cited to assist the Examiner in the prosecution of this case.

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael T. Tran whose telephone number is (571) 272-1795. The Examiner can normally be reached on Monday-Thursday from 7:30-6:00 P.M.

11. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1650.



Michael T. Tran  
Art Unit 2818  
September 3, 2004